

Control Definitions

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This guide lists terms used in system control and provides simple definitions. Our explanation of the terms is in “refrigeration” language rather than using strictly accurate control terminology.

Term	Definition
Network	Communication path between the devices (cable)
Fieldbus (ModBus)	Type of standardised communication protocol between devices
HECU	Carel controller (located in CUBO ₂ Smart)
UltraCella	Carel networked coldroom controller
MPX PRO	Carel networked cabinet / coldroom controller
BLDC	Brush Less Direct Current
RS485	Communications protocol standard (there are others)
Termination resistor	120 Ohm 4w resistor used to balance impedance along networks
Daisy	Connections in and out of devices in a linear order
Shield	To protect the internal conductors against electrical noise
Drain wire	To drain electrical interference to earth (Green/Yellow)
Ground	GND – Control ground reference point on RS485 Network
Earth	Earthed against the chassis of the control panel or enclosure (Green/Yellow)
Mask	Hierarchical levels of screens (pages)
Parameter	A number or selection you input to the controller (or is already in there) which defines the operating conditions, e.g. suction pressure
Recipe	Default parameters for different temperature ranges
Address	Unique identifier for a component on a network
Probe / Sensor	Device which measures temperature (resistance of the probe changes with temperature)
PT1000	Probe (two wire) which has a resistance of 1000Ω at 0°C
Transducer	Device which measures pressure and converts it to an electrical signal
4 – 20 mA	Output range in milliamps of a transducer scaled over a pressure range
Ratiometric 0 – 10 V	Output range in volts of a transducer scaled over a pressure range
Algorithm	A set of values / routines that are followed to control the HECU (software)
Floating suction pressure / smooth lines	Ability for a controller to determine the load and float evaporating pressure up to reduce energy consumption whilst maintaining a constant evaporating condition

HPV	High Pressure Valve which controls the gas cooler / condenser pressure. Danfoss call them ICM, ICMTS.
RPRV	Receiver Pressure Regulating Valve which controls the pressure in the receiver and liquid line. Also called MPV (medium pressure valve). Danfoss call them CCM.

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